

Amendments to the Claims:

1. (Twice amended) A steerable machine for breaking up ground comprising:

a frame;

at least one pair of rollable front supports and at least one pair of rollable rear supports, each of said front and rear supports including a chassis secured to the frame and said front supports being rotatable about a front vertical axis and at least one of the rear supports being pivotable about a rear vertical axis;

said chassis includes a yoke that supports said rear support, and has a vertical pivot journal coupled to revolve on a support plate fixed to an end of a second actuator;

said second actuator comprises a second hydraulic jack set with a vertical axis, which has a second rod with a second rod end fixed to said plate and a second cylinder end, wherein said rod slides, integral with said frame;

the cylinder of said second hydraulic jack is an integral part of said frame being connected thereto by means of a first articulation for moving said chassis with respect to a fixed point on said frame in order to move the rear [rotatable] support inward of said frame;

at least one driver's cab located in said frame;

a means for breaking up the ground connected to said frame;

traction means supported by said frame for rotating at least one of said [rotatable] rollable supports;

at least one first actuator operatively coupled to the rear supports;

a maneuvering system accessible from said driver's cab for operating the actuator for rotating said rear supports about the rear vertical axis while turning the front supports of the machine.

2. (Issued) The machine according to claim 1, wherein:

said first actuator comprises a first hydraulic jack having a first rod with a first rod end fixed to said yoke and a first cylinder end,
wherein said rod slides, fixed to said plate.

3. (Issued) The machine according to claim 1, wherein:

the chassis of said front supports are interlinked by means of a second articulation, at least one of said chassis cooperating with a third actuator for rotating the chassis around a vertical axis.

4. (Issued) The machine according to claim 3, wherein:

said third actuator comprises a third hydraulic having a third rod with a third rod end pivoted to said chassis of said front support and a third cylinder end,
wherein said rod slides, pivoted on said frame.

5. (Issued) The machine according to claim 1, wherein:

said jacks comprise hydraulic two-way jacks connected to a distribution circuit of oil under pressure.

6. (Issued) The machine according to claim 5, wherein:

said distribution circuit comprises:

a first slide valve piloted by solenoid valves that supply said first hydraulic jack;

a third slide valve controlled by said maneuvering system of said machine that supply said third hydraulic jack;

a first position detector cooperating with said first hydraulic jack;

a third position detector cooperating with said third hydraulic jack;

an electronic control unit electrically coupled to said position detectors, to said position signal and to said solenoid valves of said first slide valve.

7. (Issued) The machine according to claim 6, wherein:

said position detectors comprise potentiometric detectors.

8. (Issued) The machine according to claim 6, further comprising:

a position signal of said rear wheel or track, said position signal comprising a travel switch being wired to said electronic control unit.

9. (Issued) A steerable machine for breaking up ground comprising:

a frame;

at least one pair of rollable front supports, said front supports being rotatable about a front vertical axis and front steering means controlled by power steering for steering said front supports;

at least one pair of rollable rear supports, said rear supports being pivotable about a rear vertical axis and rear steering means controlled by at least one steering hydraulic cylinder for steering said rear supports;

at least one driver's cab located in said frame;

a means for breaking up the ground connected to said frame;

traction means supported by said frame for rotating at least one of said rollable supports;

a maneuvering system accessible from said driver's cab for operating said front steering means and said rear steering means at the same time, from said driver's cab.

10. (Issued) The steerable machine for breaking up ground as claimed in claim 9, wherein:

said front steering means is comprised of a second actuator having a hydraulic steering cylinder supplied by slide valves for working with said front supports;

said rear steering means is comprised of a first actuator having a steering hydraulic cylinder supplied by slide valves for working with said rear supports;

said power steering of said front steering means is connected to a steering wheel in said driver's cab and controls said slide valves;

said solenoid valves of said rear steering means control said slide valves; and

said maneuvering system having a control means interlinking said steering hydraulic cylinders, and controlling coordinated turning of both said front supports and said rear supports.

11. (Issued) The steerable machine for breaking up ground as claimed in claim 10, wherein:

said control means further comprises potentiometric position detectors in mechanical connection with each steering hydraulic cylinder, and electrically connected to an electronic control unit.

12-70. (Canceled).

71. (New) A steerable machine for breaking up ground comprising:
a frame;
at least one pair of rollable front supports and at least one pair of rollable rear supports, each of said front and rear supports including a chassis secured to the frame and said each of the front supports being rotatable about a front vertical axis and at least one of the rear supports being pivotable about a first rear vertical axis;
said chassis includes a yoke that supports said rear support, and has a vertical pivot journal coupled to revolve on a support plate fixed to an end of a second actuator;
said second actuator comprises a second hydraulic jack set with a vertical axis, which has a second rod with a second rod end fixed to said plate and a second cylinder end, wherein said rod slides, integral with said frame;
the cylinder of said second hydraulic jack is an integral part of said frame being connected thereto by means of a first articulation for moving said chassis with

respect to a fixed point on said frame in order to move the rear support inward of said frame;

at least one driver's cab located in said frame;

a means for breaking up the ground connected to said frame;

traction means supported by said frame for rotating at least one of said rollable supports;

at least one first actuator operatively coupled to at least one rear support;

a steering system accessible from said driver's cab for operating the first actuator for rotating at least one of said rear supports about a second rear vertical axis while turning the front supports of the machine.

72. (New) A machine according to claim 71, wherein the steering system further includes a third hydraulic actuator configured to steer at least one of the front supports, and an electronic control unit configured to coordinate movement of the at least the first and second hydraulic actuators.

73. (New) A machine according to claim 71, wherein the steering system further includes a first position detector operatively coupled to at least one of the front supports, a second position detector operatively coupled to at least one of the rear supports, and an electronic control unit configured to electronically communicate with each of the first and second position detectors.

74. (New) A machine according to claim 73, wherein the steering system further includes a third position detector configured to determine whether the pivotable rear support is in the retracted position, the third position detector including a travel switch.

75. (Cancelled).

76. (New) A machine according to claim 71, wherein the steering system is configured to selectively steer the pair of rear supports.

77-86. (Cancelled).

87. (New) A machine according to claim 1, the actuator is movable in response to said maneuvering system and to a position signal indicating that said at least one rear supports is located inward of the frame.

88-114. (Cancelled).

115. (New) The machine according to claim 1, wherein: only one of the rear supports is configured to move inward of said frame and is configured to be rotatable about the rear vertical axis only when positioned inward of said frame.

116. (New) The steerable machine for breaking up ground as claimed in claim 9, wherein:
only one of said rear supports is pivotable about the rear vertical axis;
the pivotable rear support is pivotable between an extended position and a retracted position; and
the pivotable rear support is steerable only when in said retracted position.

117. (Cancelled).

118. (New) A machine according to claim 71, wherein:
only one of the rear supports is pivotable about the first rear vertical axis; and
the steering system is configured to rotate the pivotable one of the rear supports about the second rear vertical axis only when the pivotable one of the rear supports is moved inward of said frame.

119-121. (Cancelled).

122. (New) A machine for breaking up ground comprising:
a frame;
at least first and second rollable front supports;
at least first and second rollable rear supports, the first rear support being pivotable about a vertical axis between a retracted position and an extended position with respect to the frame;

at least one driver's cab located in said frame;

a ground breaking device coupled to the frame and configured to contact the ground;

a traction system coupled to the frame and configured to rotate at least one of the rollable supports; and

a steering system controllable from said driver's cab and configured to simultaneously steer (i) both of the first and second front supports and (ii) only the first rear support.

123. (New) A machine according to claim 122, wherein the steering system further includes a first position detector operatively coupled to at least one of the first and second front supports, a second position detector operatively coupled to the first rear support, and an electronic control unit configured to electronically communicate with each of the first and second position detectors.

124. (New) A machine according to claim 122, wherein the steering system is further configured to steer the first rear support only when the first rear support is in the retracted position.

125. (New) A machine according to claim 122, wherein the steering system is further configured to steer the first rear support according to a calculated geometry with respect to a common center of steering rotation of the first and second front supports.

126. (New) A machine according to claim 122, further comprising a chassis coupled to the first rear support, and a linkage assembly connected to the chassis and configured to move the chassis between the extended and retracted positions.

127. (New) A machine according to claim 122, further comprising a chassis coupled to the first rear support, the chassis including a support plate coupled to an actuator, the actuator configured to move the chassis in a vertical direction.

128. (New) A machine according to claim 122, further comprising a travel switch for providing a position signal indicating that the first rear support is in the retracted position.

129. (New) A machine according to claim 122, wherein only the first rear support is pivotable about a vertical axis between the retracted position and the extended position.

130. (New) A machine for breaking up ground comprising:
a frame;
at least first and second rollable front tracks;
at least first and second rollable rear tracks, the first rear track being pivotable about a vertical axis between a retracted position and an extended position with respect to the frame;
at least one driver's cab located in said frame;

a ground breaking device coupled to the frame and configured to contact the ground;

a traction system coupled to the frame and configured to rotate at least one of the rollable tracks; and

a steering system controllable from said driver's cab and configured to simultaneously steer (i) both of the first and second front tracks and (ii) only the first rear track.

131. (New) A machine according to claim 130, wherein the steering system further includes a first position detector operatively coupled to at least one of the first and second front tracks, a second position detector operatively coupled to the first rear track, and an electronic control unit configured to electronically communicate with each of the first and second position detectors.

132. (New) A machine according to claim 130, wherein the steering system is further configured to steer the first rear track only when the first rear track is in the retracted position.

133. (New) A machine according to claim 130, wherein the steering system is further configured to steer the first rear track according to a calculated geometry with respect to a common center of steering rotation of the first and second front tracks.

134. (New) A machine according to claim 130, further comprising a chassis coupled to the first rear track, and a linkage assembly connected to the chassis and configured to move the chassis between the extended and retracted positions.

135. (New) A machine according to claim 130, further comprising a chassis coupled to the first rear track, the chassis including a support plate coupled to an actuator, the actuator configured to move the chassis in a vertical direction.

136. (New) A machine according to claim 130, further comprising a travel switch for providing a position signal indicating that the first rear track is in the retracted position.

137. (New) A machine according to claim 130, wherein only the first rear track is pivotable about a vertical axis between the retracted position and the extended position.

138. (New) A machine for breaking up ground comprising:
a frame;
at least first and second rollable front supports;
at least first and second rollable rear supports, the first rear support being
pivotable about a vertical axis between a retracted position and an extended position
with respect to the frame;
at least one driver's cab located in said frame;

a ground breaking device coupled to the frame and configured to contact the ground;

a traction system coupled to the frame and configured to rotate at least one of said rollable supports; and

a steering system controllable from said driver's cab and including a hydraulic distribution circuit having a plurality of position detectors and a plurality of hydraulic cylinders, and an electronic control unit configured to control the hydraulic distribution circuit based on signals received from the plurality of position detectors, the steering system configured to simultaneously steer (i) both of the first and second front supports and (ii) only the first rear support.

139. (New) A machine according to claim 138, wherein the plurality of position detectors includes a first position detector operatively coupled to at least one of the first and second front supports, and a second position detector operatively coupled to the first rear support.

140. (New) A machine according to claim 138, wherein the steering system is further configured to steer the first rear support only when the first rear support is in the retracted position.

141. (New) A machine according to claim 138, wherein the steering system is further configured to steer the first rear support according to a calculated geometry with respect to a common center of steering rotation of the first and second front supports.

142. (New) A machine according to claim 138, further comprising a chassis coupled to the first rear support, and a linkage assembly connected to the chassis and configured to move the chassis between the extended and retracted positions.

143. (New) A machine according to claim 138, further comprising a chassis coupled to the first rear support, the chassis including a support plate coupled to an actuator, the actuator configured to move the chassis in a vertical direction.

144. (New) A machine according to claim 138, further comprising a travel switch for providing a position signal indicating that the first rear support is in the retracted position.

145. (New) A machine according to claim 138, wherein only the first rear track is pivotable about a vertical axis between the retracted position and the extended position.

146. (New) Machine for breaking up ground, said machine having a frame, a device for breaking up the ground and being connected to said frame, at least one driver's cab, at least one pair of steered front wheels or tracks and at least one pair of rear wheels or tracks adapted to support said frame, a traction system supported by said frame and adapted to rotate one or more of said wheels or tracks, and a

maneuvering system for steering said front wheels or tracks and being accessible from said cab, characterized in that:

a first one of said rear wheels or tracks is pivotable between an extended position and a retracted position relative to said frame; and

wherein said first rear wheel or track is the only one of said rear wheels or tracks that is sterred about a vertical steering axis in response to said maneuvering system and to a position signal indicating that said first rear wheel or track is in said retracted position.